

## Postoperative Radiotherapy in Cancers of the Larynx: Experience of the Emir Abdelkader Cancer Center of Oran, about 89 Cases

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**Abstract :** Introduction and purpose of the study: This is a retrospective single-center study with an analytical aim to determine the prognostic factors for relapse in patients treated with radiotherapy after total laryngectomy with lymph node dissection for laryngeal cancer at the Emir Abdelkader cancer center in Oran (Algeria). Material and methods: During the study period from January 2014 to December 2018, eighty-nine patients (n=89) with squamous cell carcinoma of the larynx were treated with postoperative radiotherapy. Relapse-free survival was studied in the univariate analysis according to pre-treatment criteria using Kaplan-Meier survival curves. We performed a univariate analysis to identify relapse factors. Statistically significant factors have been studied in the multifactorial analysis according to the Cox model. Results and statistical analysis: The average age was 62.7 years (40-86 years). It was a squamous cell carcinoma in all cases. Postoperatively, the tumor was classified as pT3 and pT4 in 93.3% of patients. Histological lymph node involvement was found in 36 cases (40.4%), with capsule rupture in 39% of cases, while the limits of surgical excision were microscopically infiltrated in 11 patients (12.3%). Chemotherapy concomitant with radiotherapy was used in 67.4% of patients. With a median follow-up of 57 months (23 to 104 months), the probabilities of relapse-free survival and five-year overall survival are 71.2% and 72.4%, respectively. The factors correlated with a high risk of relapse were locally advanced tumor stage pT4 ( $p=0.001$ ), tumor site in case of subglottic extension ( $p=0.0003$ ), infiltrated surgical limits R1 ( $p=0.001$ ), lymph node involvement ( $p=0.002$ ), particularly in the event of lymph node capsular rupture ( $p=0.0003$ ) as well as the time between surgery and adjuvant radiotherapy ( $p=0.001$ ). However, in the subgroup analysis, the major prognostic factors for disease-free survival were subglottic tumor extension ( $p=0.001$ ) and time from surgery to adjuvant radiotherapy ( $p=0.005$ ). Conclusion: Combined surgery and postoperative radiation therapy are effective treatment modalities in the management of laryngeal cancer. Close cooperation of the entire cervicofacial oncology team is essential, expressed during a multidisciplinary consultation meeting, with the need to respect the time between surgery and radiotherapy.

**Keywords :** laryngeal cancer, laryngectomy, postoperative radiotherapy, survival

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